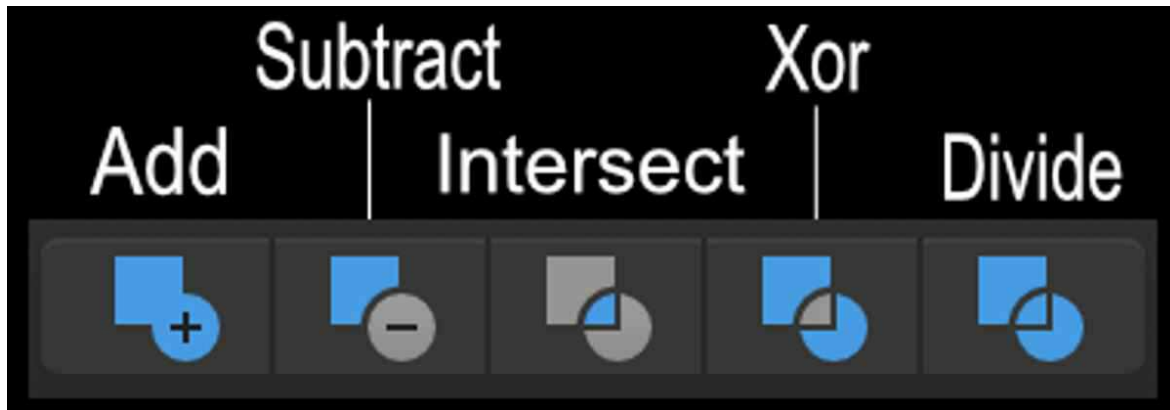


Basics 8: How to Combine Shapes Using the Boolean Tools

Combining shapes is a pretty standard skill to use in Designer. It allows us to make unique shapes very quickly.

The Boolean Tools are located in the Toolbar above-and-to-the-left of the Colors Panel. Here is an image of the five Boolean Tools with their names typed out for you.



In order to use the Boolean Tools, we need to have at least two objects selected at the same time. We'll keep this lesson as simple as we can and only use two objects. We'll create one pink circle and then duplicate it. These will be our two shapes.

Instead of trying to explain how to use these tools, let's just jump in...

Ready to start? If so, then let's...

*Create a **New Document** with these specifics:*

- **Web - CD Cover Digital Release**
- **Transparent Background** (*checked*)

Did you remember the shortcut to quickly create a new document? (Answer: **Ctrl/Cmd+N**).

*Select the **Ellipse Tool** and **hold-down** the **Shift key** as you *click & drag* out **one circle shape** on the middle-left side of the document.*

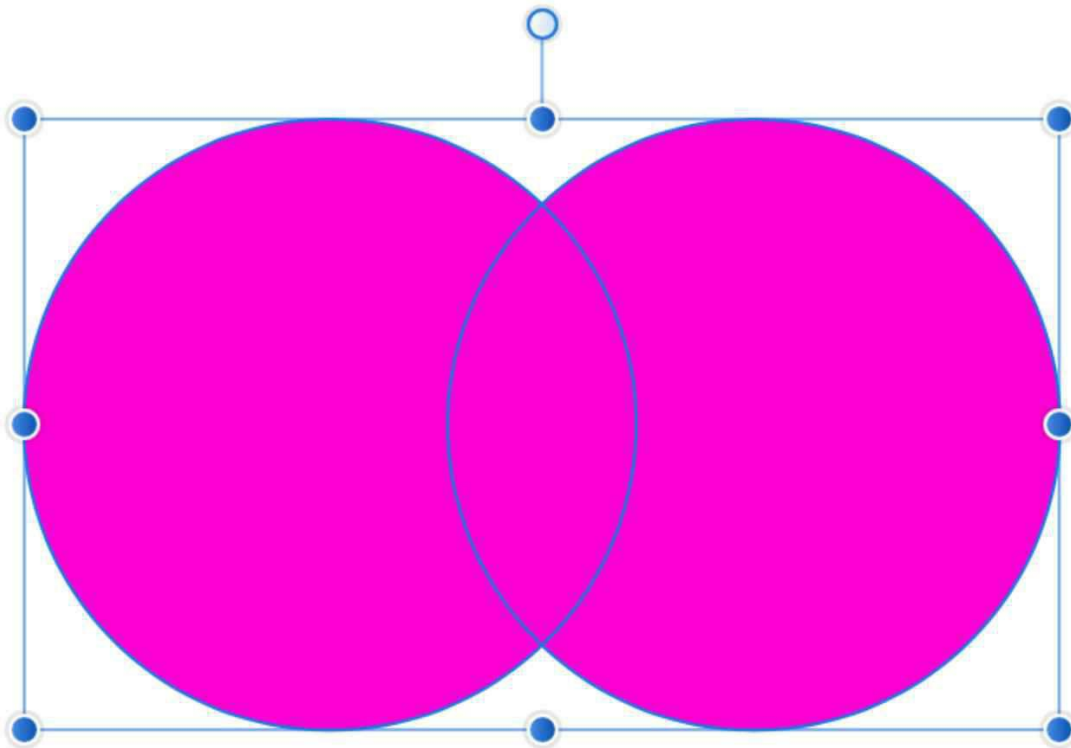
*Click on the **pink color** on the Color wheel to change its color.*

Press **Ctrl/Cmd+J** to **duplicate** this first circle. We can do this because we know the first circle is active. Meaning: It has blue nodes surrounding it and it's layer in the Layers Panel is highlighted in blue.

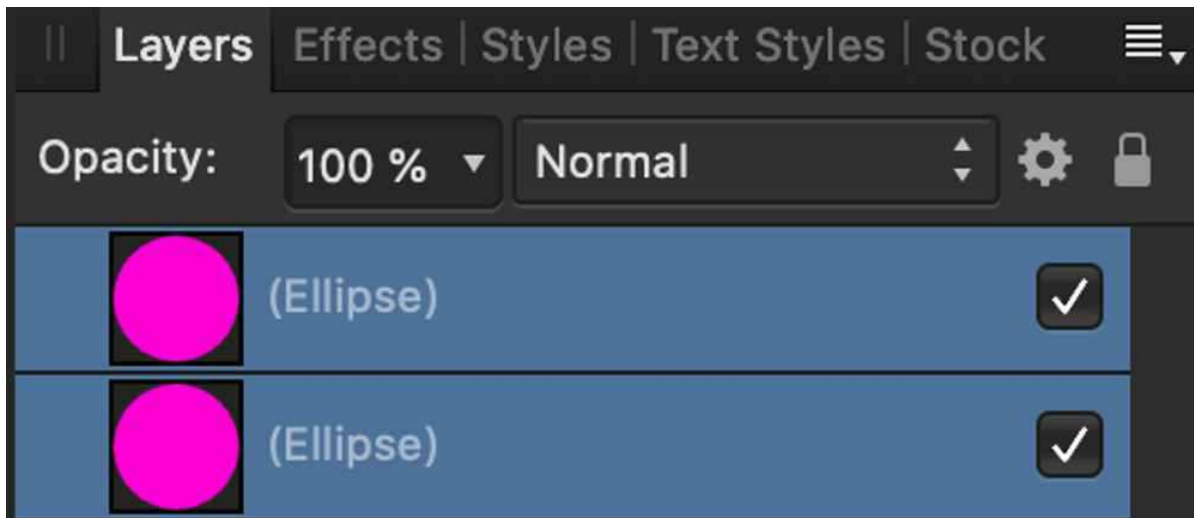
Select the **Move Tool** to **move** the duplicated circle from above the first circle and place it to the right of the other circle shape (see the image below for what we want you to do).

Click & drag a **selection** over both shapes.

This is what you should have on your screen now. Notice how the blue nodes surround both circles. It's interesting to note that selecting two objects using a click & drag motion has the same effect as holding-down the Shift key and selected these two layers.



This is what the Layers Panel should look like when both shapes are selected. We'll call this our starting Layers Panel position.



So, every time before we click on a new Boolean Tool, we need to make sure we always start where both of our original circles are selected (like the above two images).

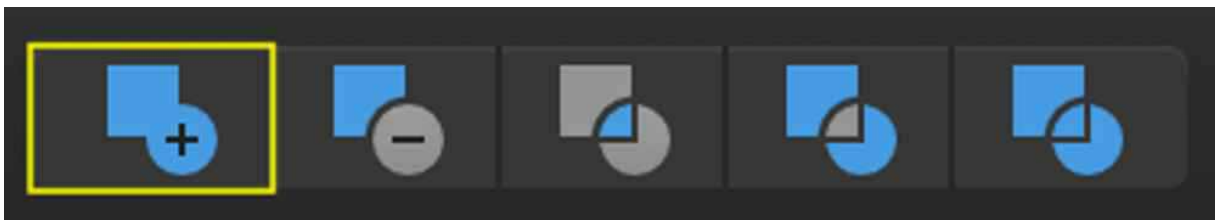
Press **Ctrl/Cmd+Z** to **undo** your work (after you've done it) to bring us back to this starting point (see above image).

Let's start clicking on some Boolean Tools, shall we?

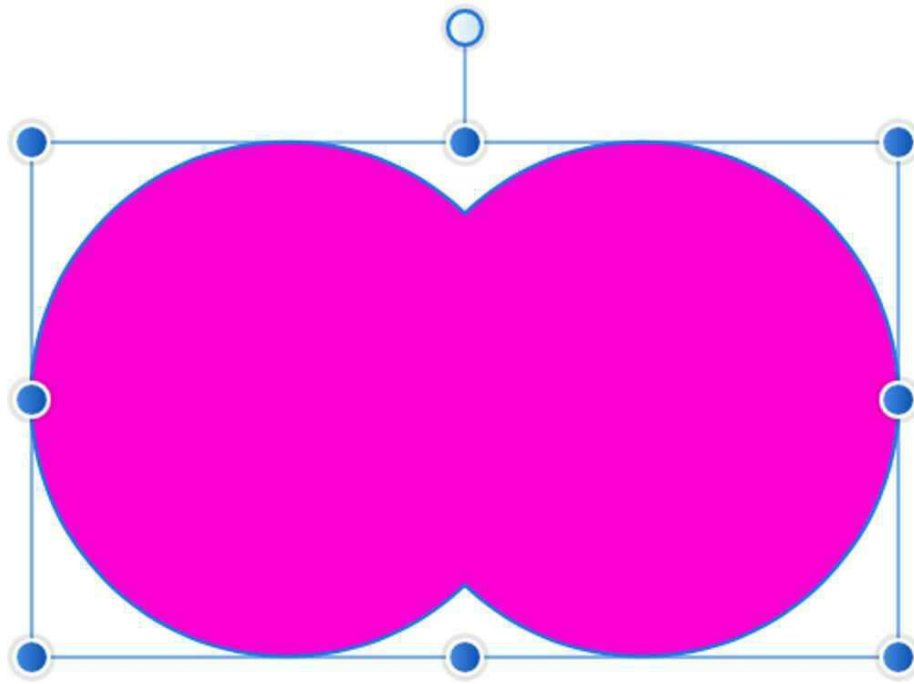
We'll show you what to click and what the new shape looks like. There really isn't much to discuss other than to see what happens and to think to yourself (and remember) what happens to our two selected objects when you click on a Boolean Tool.

Note: We'll use these Boolean tools when we create a flat character with shading later on in this book.

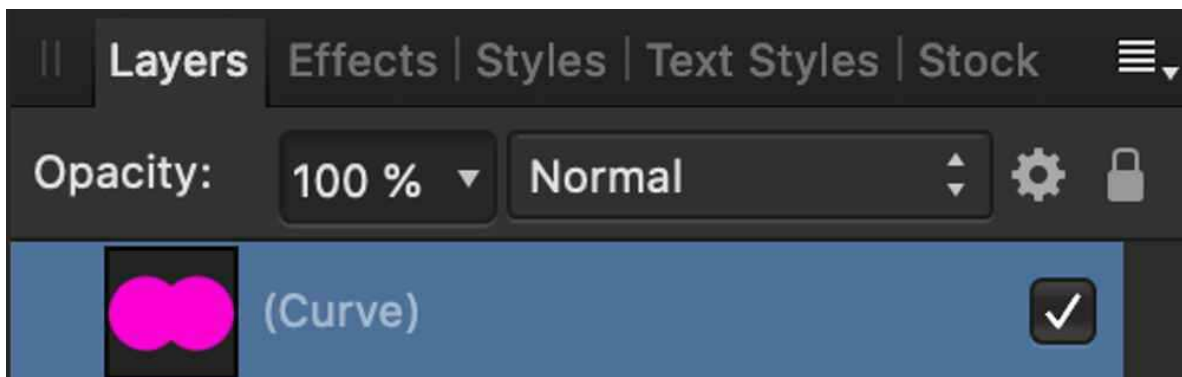
Click on the **Add** Boolean Tool.



Result: The two shapes are now one.



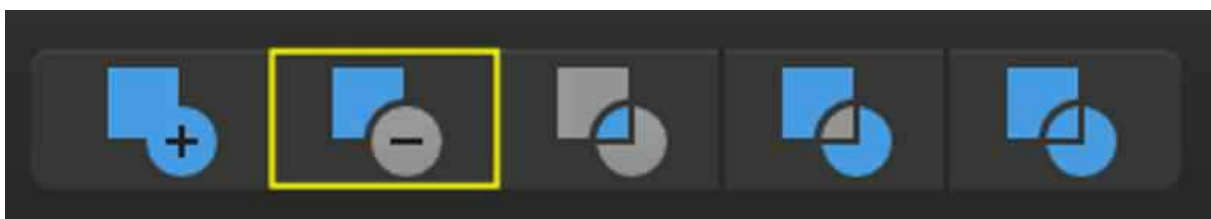
This is how it appears in the Layers Panel.



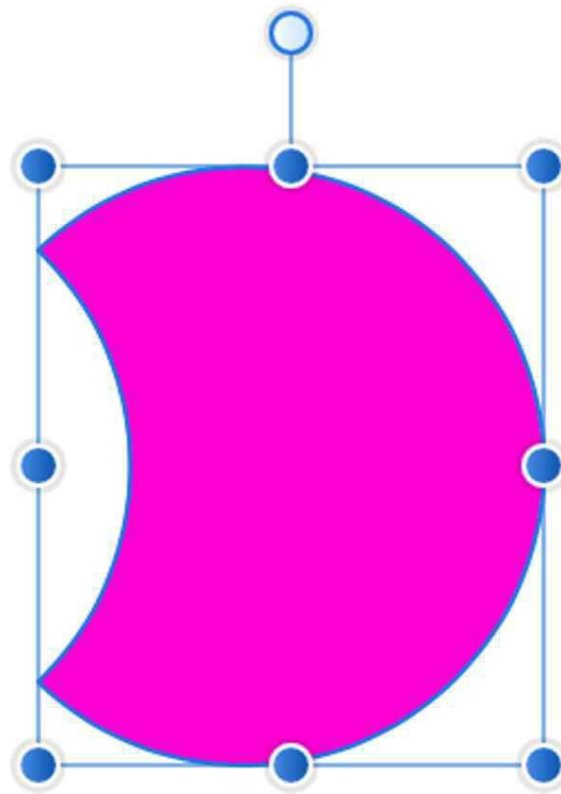
Note: Press **Ctrl/Cmd+Z** to **return** our Layers Panel back to our starting position of two layers.

You should be back at the starting position now with both circles selected:

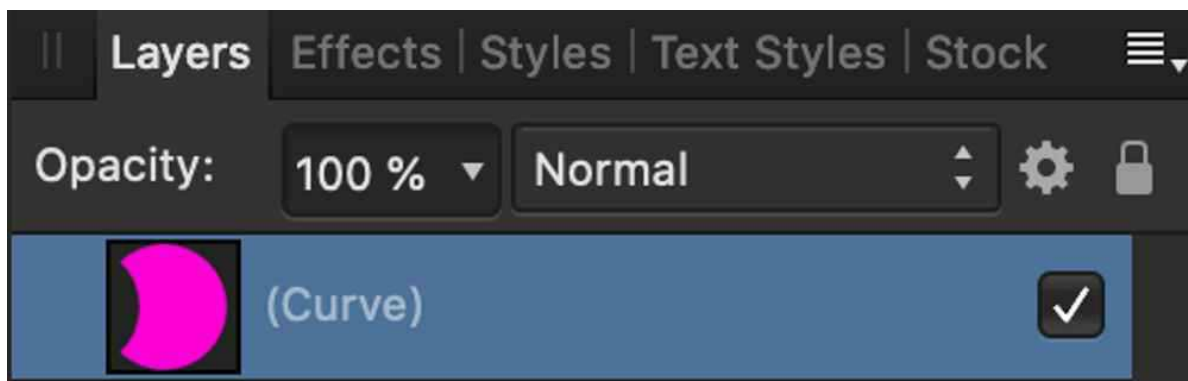
Click on the **Subtract** second Boolean Tool.



Result: Subtract removes the circle (positioned on top of the other layer) and leaves behind a subtracted portion of one of the objects.



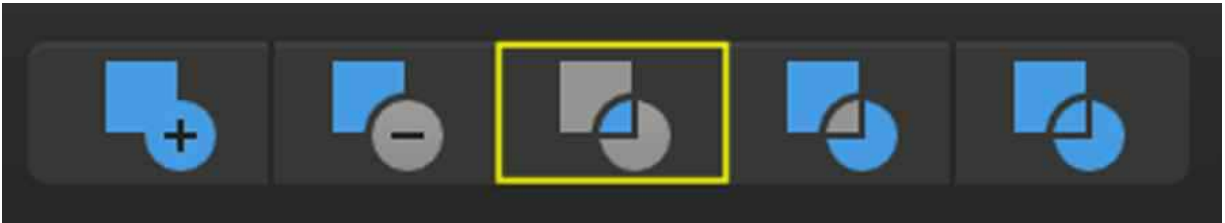
This is how it appears in the Layers Panel. Notice how the left-side circle is completely gone.



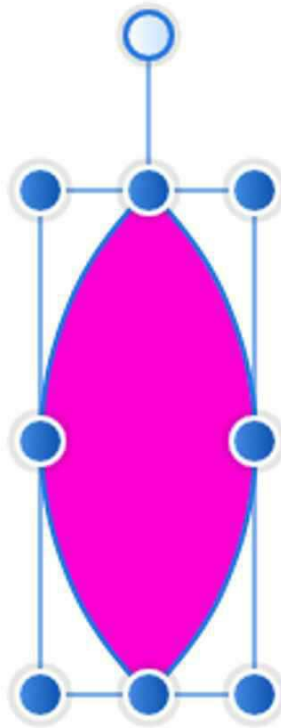
Note: Press **Ctrl/Cmd+Z** to **return** our Layers Panel back to our starting position of two layers.

Starting Position:

Click on the **Intersect** Boolean Tool.

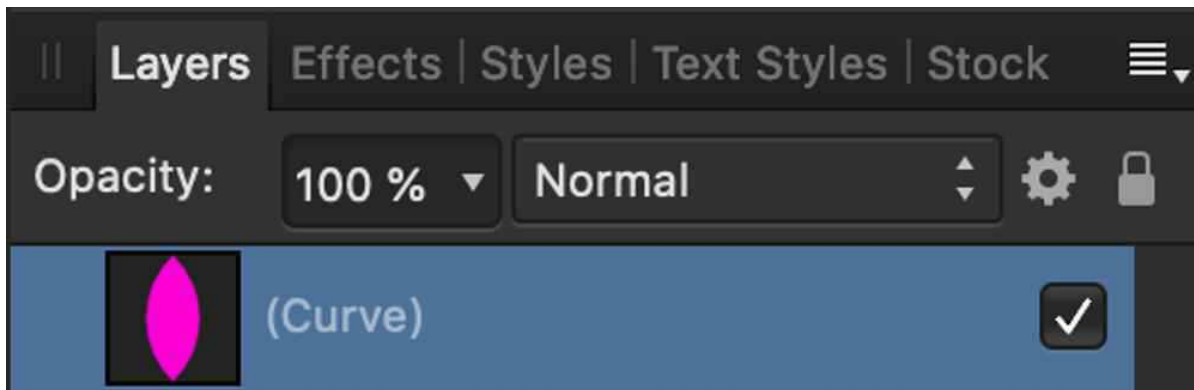


Result: Only the area where the two shapes intersected remains.



This is how it appears in the Layers Panel. Pay attention again at how the original two circles are completely removed and only the leftover portion remains.

Note: We'll be using this Boolean Tool in to create a beautiful flower design later on in this book.

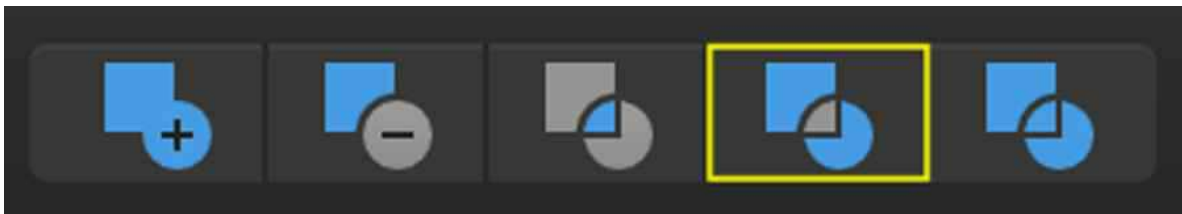


Note: Press **Ctrl/Cmd+Z** to **return** our Layers Panel back to our starting position of two layers.

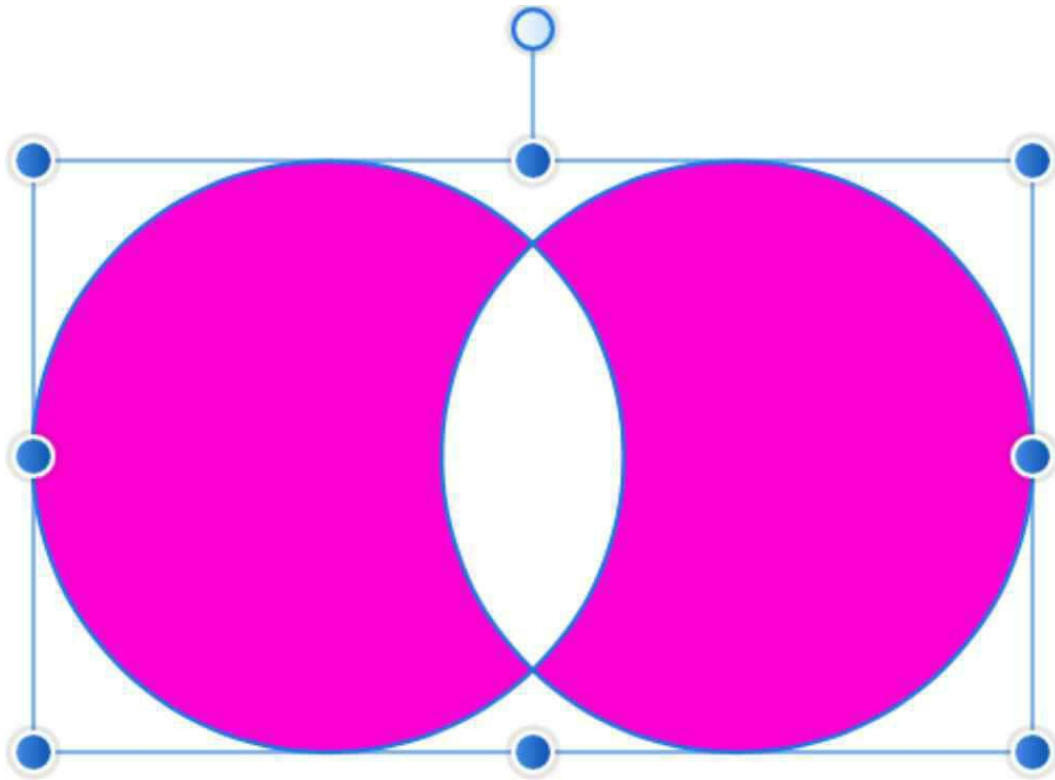
Starting Position:

Click on the **Xor** Boolean Tool (also called Difference).

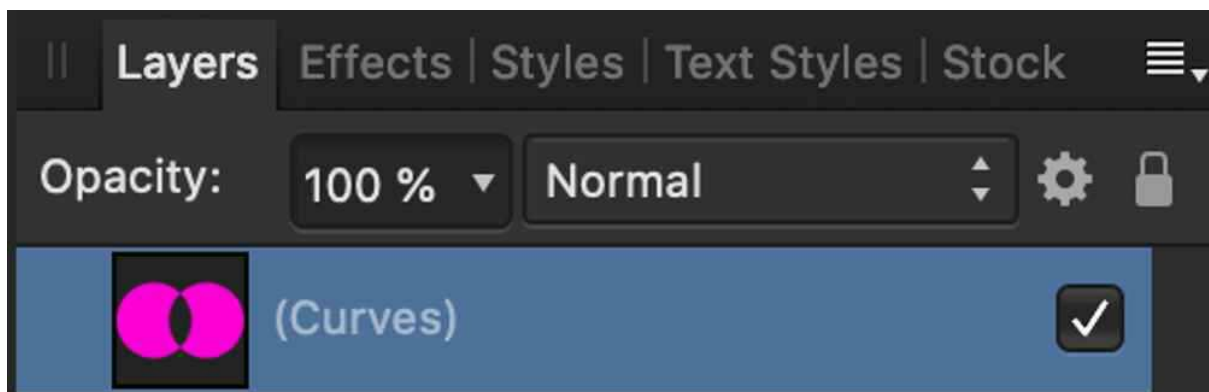
Note: The way we pronounce "Xor" is "Core" (like coring out an apple). The X being the Greek letter chi, which is pronounced "kai" - or so we think :)



Result: Creates a transparent area where the two objects overlapped each other. The **core** was taken out and the two shapes without this middle area remain.



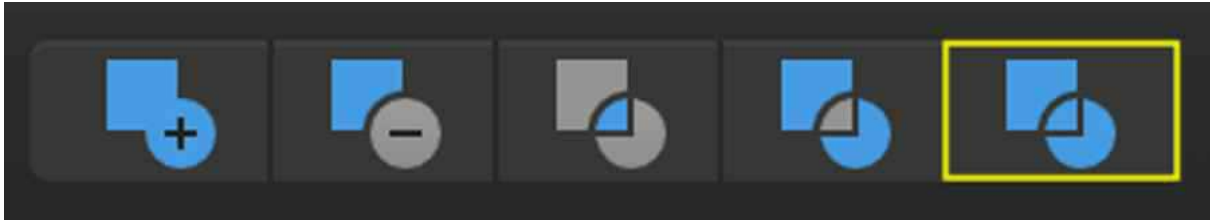
This is how it appears in the Layers Panel.



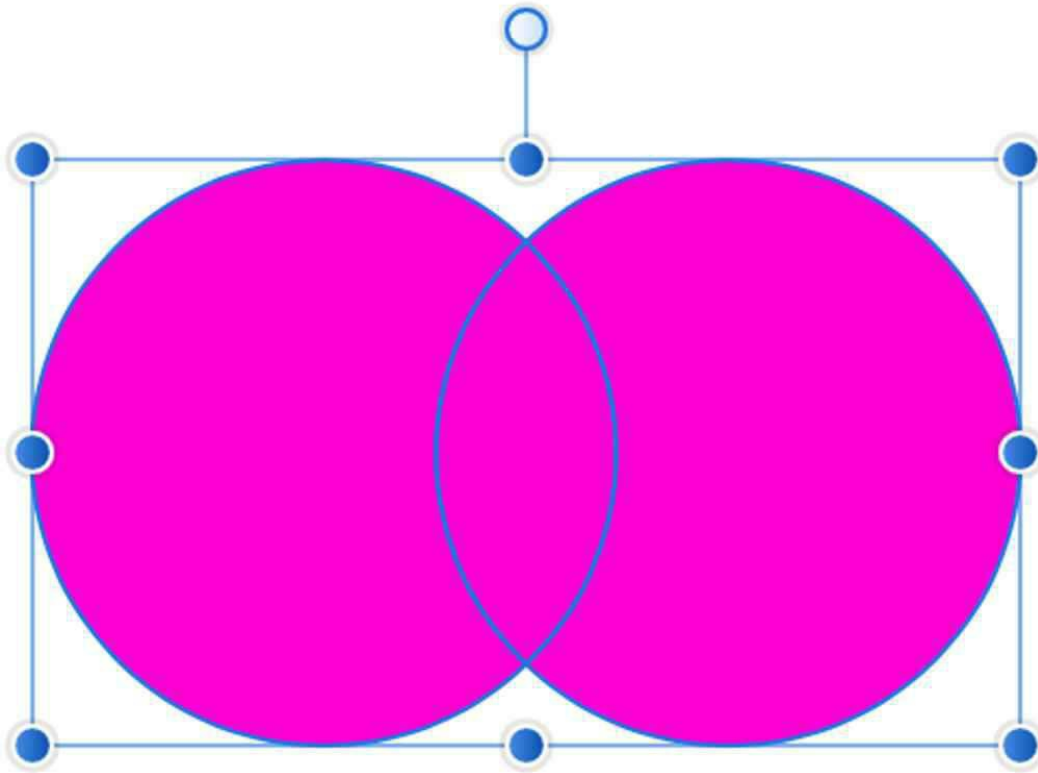
Note: Press **Ctrl/Cmd+Z** to **return** our Layers Panel back to our starting position of two layers.

Starting Position:

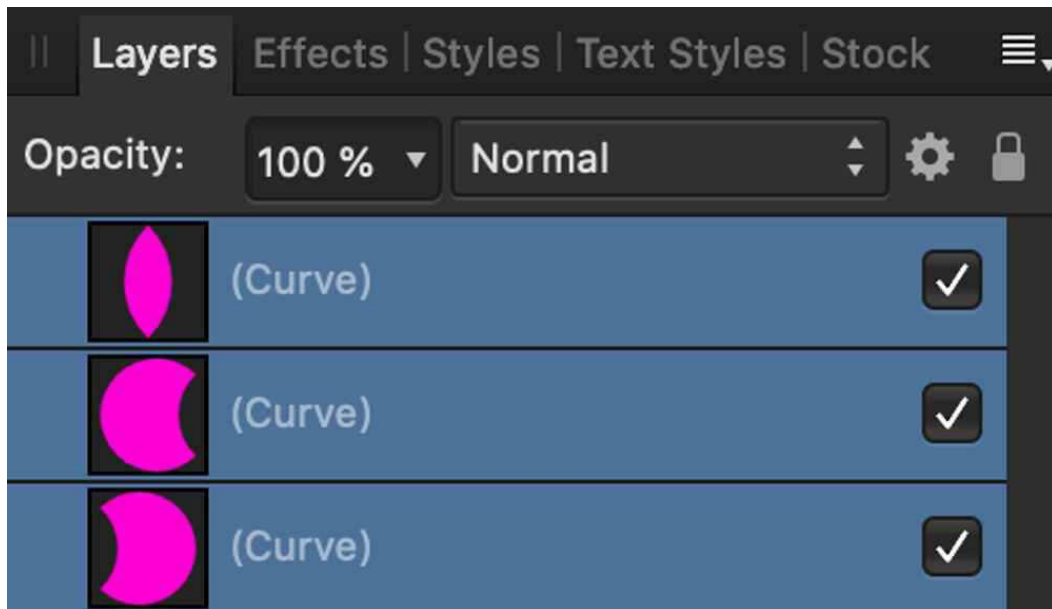
Click on the **Divide** Boolean Tool.



Result: This Boolean Tool cuts and divides the original two objects into three separate objects (see the Layers Panel in two images below). The division occurs where the Stroke outlines were. There won't appear to be any change to the object in the document when this tool is first done. But, each of the three objects you can see in the Layers Panel are now their own individual shapes in the document. All you have to do is move each one away from the other.



This is how it appears in the Layers Panel.



Done. We've finished working with the Boolean Tools. Now, it's your turn to go back and create two new shapes and after you select both of them, go through the different Boolean Tools and watch their shapes change. Do this 10 times and it'll start to sink in how you can possibly use these tools for future design ideas.

Finished. This completes our lesson on the Boolean tools.